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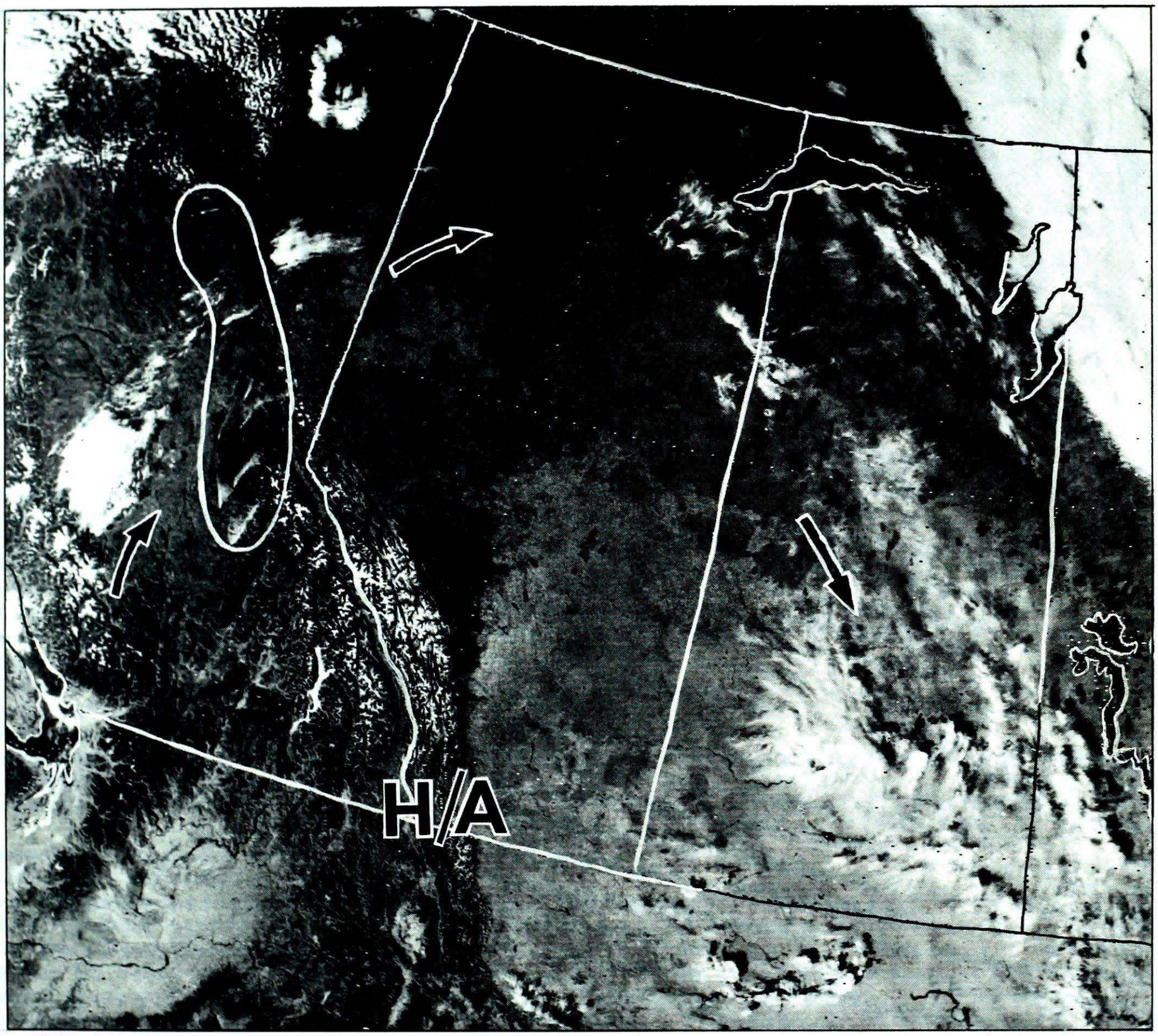
Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

weekly review of Canadian climate | October 14 to 20, 1986 | Vol.8 No.42

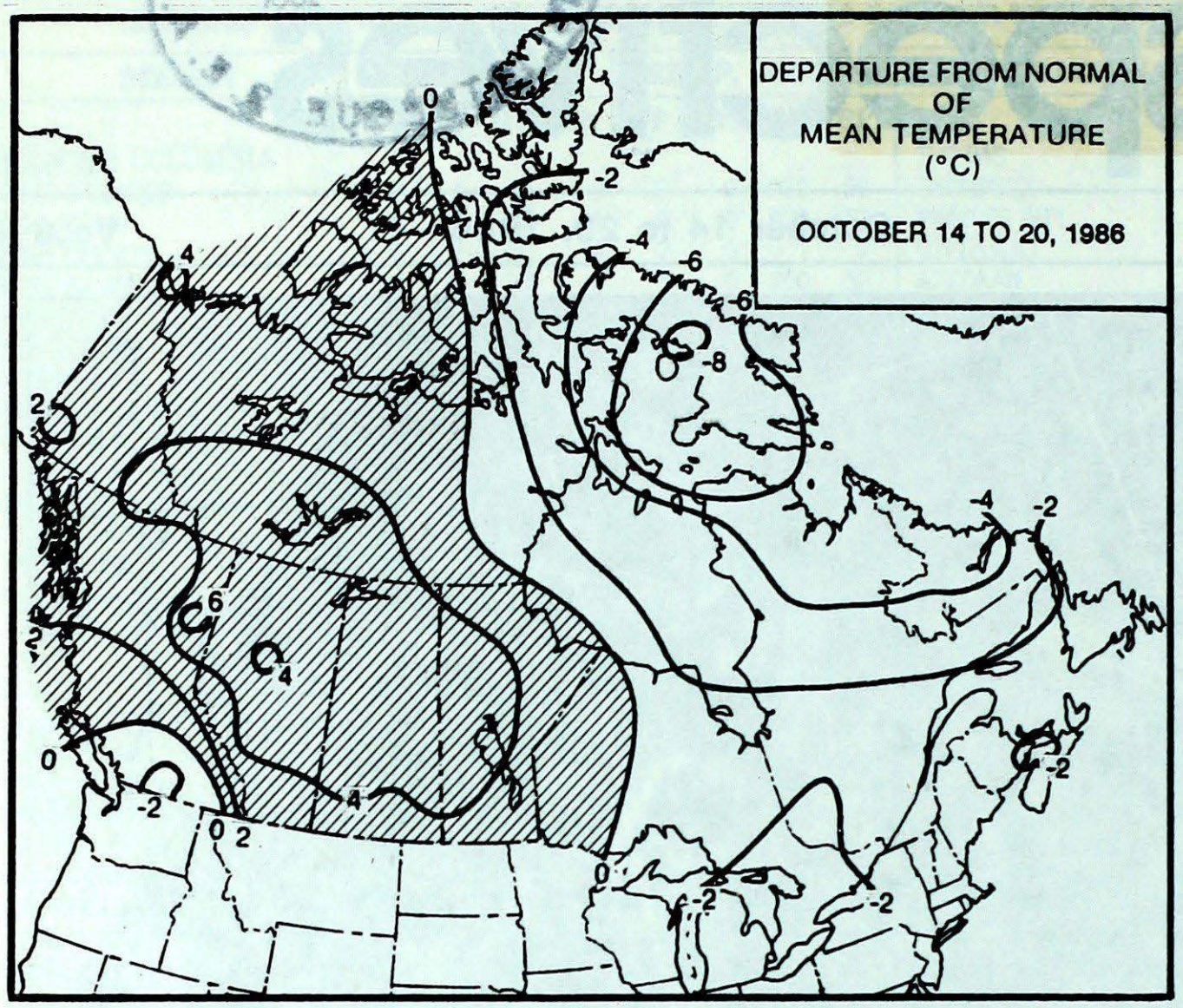


This image, taken by the NOAA 9 meteorological satellite on October 15, shows very little cloud over western Canada which was under the influence of a surface high pressure system. Some notable features include the snow over the higher mountains of the western cordillera, the smoke plumes from slash burning over east central B.C. (encircled) and the clear differentiation between the lighter coloured farmland and the darker forested areas over the prairies and southwestern B.C.

- ***Record October dry spell at Vancouver***
- ***Warm dry harvest weather on the Prairies***
- ***Record cold in the northeast***

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

		MAXIMUM		MINIMUM	
BRITISH COLUMBIA	FORT ST.JOHN	22	PUNTZI MOUNTAIN		-7
YUKON TERRITORY	WATSON LAKE	16	BEAVER CREEK		-17
NORTHWEST TERRITORIES	FORT SIMPSON	20	EUREKA		-31
ALBERTA	FORT MCMURRAY	25	HIGH LEVEL		-4
SASKATCHEWAN	ESTEVAN	24	COLLINS BAY		-5
MANITOBA	DAUPHIN	25	CHURCHILL		-8
ONTARIO	THUNDER BAY	20	ARMSTRONG		-7
QUEBEC	MONTREAL INT'L	18	KUUJJUAQ		-15
NEW BRUNSWICK	MONCTON	17	FREDERICTON		-5
NOVA SCOTIA	GREENWOOD	19	TRURO		-4
PRINCE EDWARD ISLAND	CHARLOTTETOWN	17	CHARLOTTETOWN		-2
NEWFOUNDLAND	GANDER INT'L	18	CHURCHILL FALLS		-15

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	12	CAPE ST.JAMES SANDSPIT BC
COOLEST MEAN TEMPERATURE	-25	EUREKA NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

A moderate-strong southwesterly flow produced some near-record warm temperatures over the Yukon and broke records in the Mackenzie Valley early in the week. On October 14, the mercury climbed to 19.6°C at at Hay River and 20.2°C at Fort Simpson. The eastern and northern Arctic remained unseasonably cold all week. The Arctic air expanded to engulf all western regions by the end of the week.

British Columbia

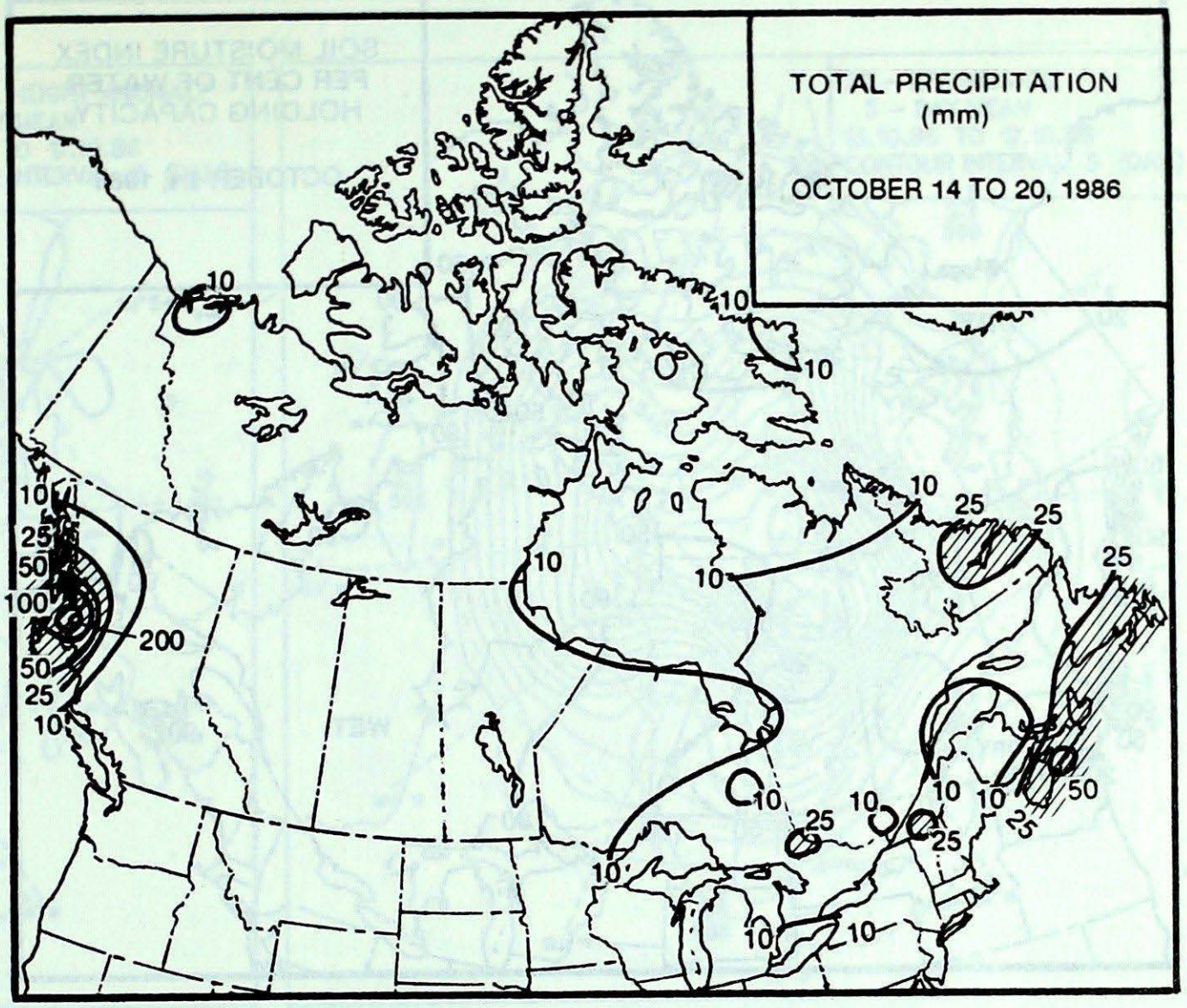
Ideal sunny, dry, harvest weather prevailed over most of the province this week. Vancouver's dry spell extended to 20 days which beat the previous October record of 19 days set in 1952. In the interior, Prince George recorded a daily record maximum temperature of 18.2°C on the 16th. Near the end of the period rain invaded the north coastal areas and 8.3 cm of snow fell at Fort Nelson on the 17th and 18th.

Prairies

Sunny and warm Indian summer conditions dominated the weather scene across the prairies this week. The week started out cold in the east then two successive influxes of warm air moved across the prairies from the west. Many daily maximum temperature records were set in all three provinces with values in the low to mid 20s being reported at several locations. These much improved weather conditions allowed harvesting operations to proceed at full speed although there were some restrictions caused by residual wetness in poorly drained pockets.

Unfortunately, the quality of much of the western prairie grain has been markedly reduced by the abnormally wet weather in September.

PRECIPITATION



Ontario

The week started out cool and wet as several active weather systems passed over the province. Precipitation fell mostly in the form of rain, however, some snow was recorded in Northern and Central Ontario, with Moosonee receiving 5 cm between Wednesday and Thursday.

Low maximum temperature records were set in Central Ontario on the 15th. A record low maximum of -0.6°C was equalled at Timmins.

An extensive area of high pressure moved into the province on Friday producing brilliant sunshine for the weekend. Farmers are hoping for a continuation of the dry sunny weather in order to resume harvesting of their water-damaged crops.

Québec

It was persistently cold over the northern regions all week with record low daily temperatures being set at many locations. On the 15th the temperature dropped to -12°C at Schefferville. New daily minimum temperature records were set at Kuujjuaq on four consecutive days culminating in a minimum of -15°C on the 17th. This cold Arctic air peneterated into southern Québec just after the beginning of the period then temperatures rose to above normal values at the end the week under the influence of the dominant area of high pressure over the Great Lakes. Precipitation was generally light with some snow in the north.

Atlantic

The week began with above normal temperatures then two weather systems passed through the area between the 14th and 18th bringing heavy precipitation and below normal temperatures. On October 18 St. John's recorded 37 mm of rain with a daily maximum of 2°C. From Terra Nova National Park to Gander, about 15-20 cm of snow was reported. Gander recorded 14 cm of snow, a new daily record. Minor disruptions to traffic were reported.

Several Newfoundland daily temperatures records were lowered in the cold Arctic air which covered northern Labrador at the beginning of the period then engulfed the whole province by the end of the period.

HEAVIEST WEEKLY PRECIPITATION (mm)

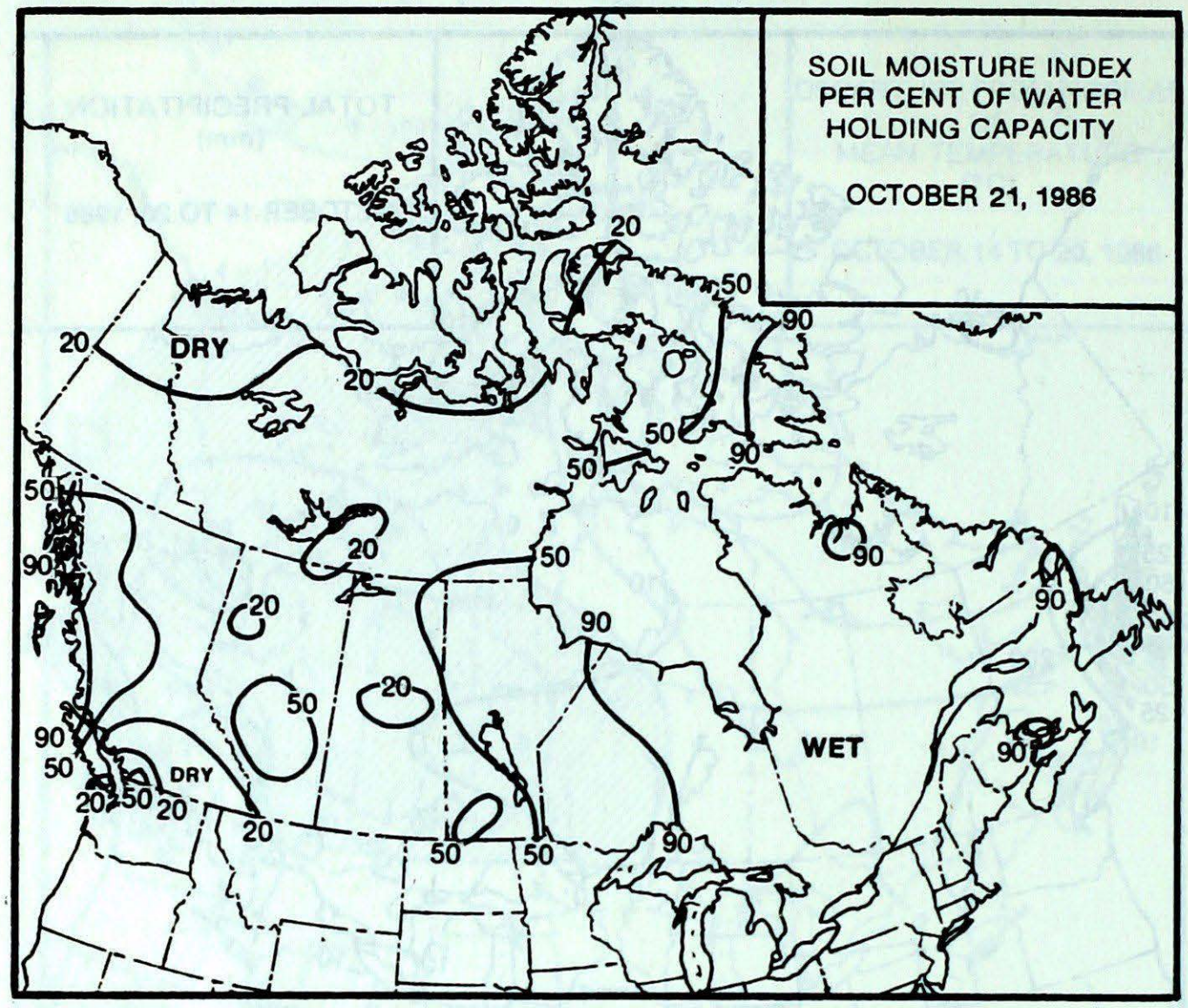
BRITISH COLUMBIA	PRINCE RUPERT	253
YUKON TERRITORY	KOMAKUK BEACH A	8
NORTHWEST TERRITORIES	BROUGHTON ISLAND	15
ALBERTA	HIGH LEVEL	4
SASKATCHEWAN	COLLINS BAY	1
MANITOBA	CHURCHILL	11
ONTARIO	NORTH BAY	25
QUEBEC	SUTTON JUNCTION	25
NEW BRUNSWICK	SAINT JOHN	16
NOVA SCOTIA	SABLE ISLAND	64
PRINCE EDWARD ISLAND	CHARLOTTETOWN	17
NEWFOUNDLAND	BURGEO	49

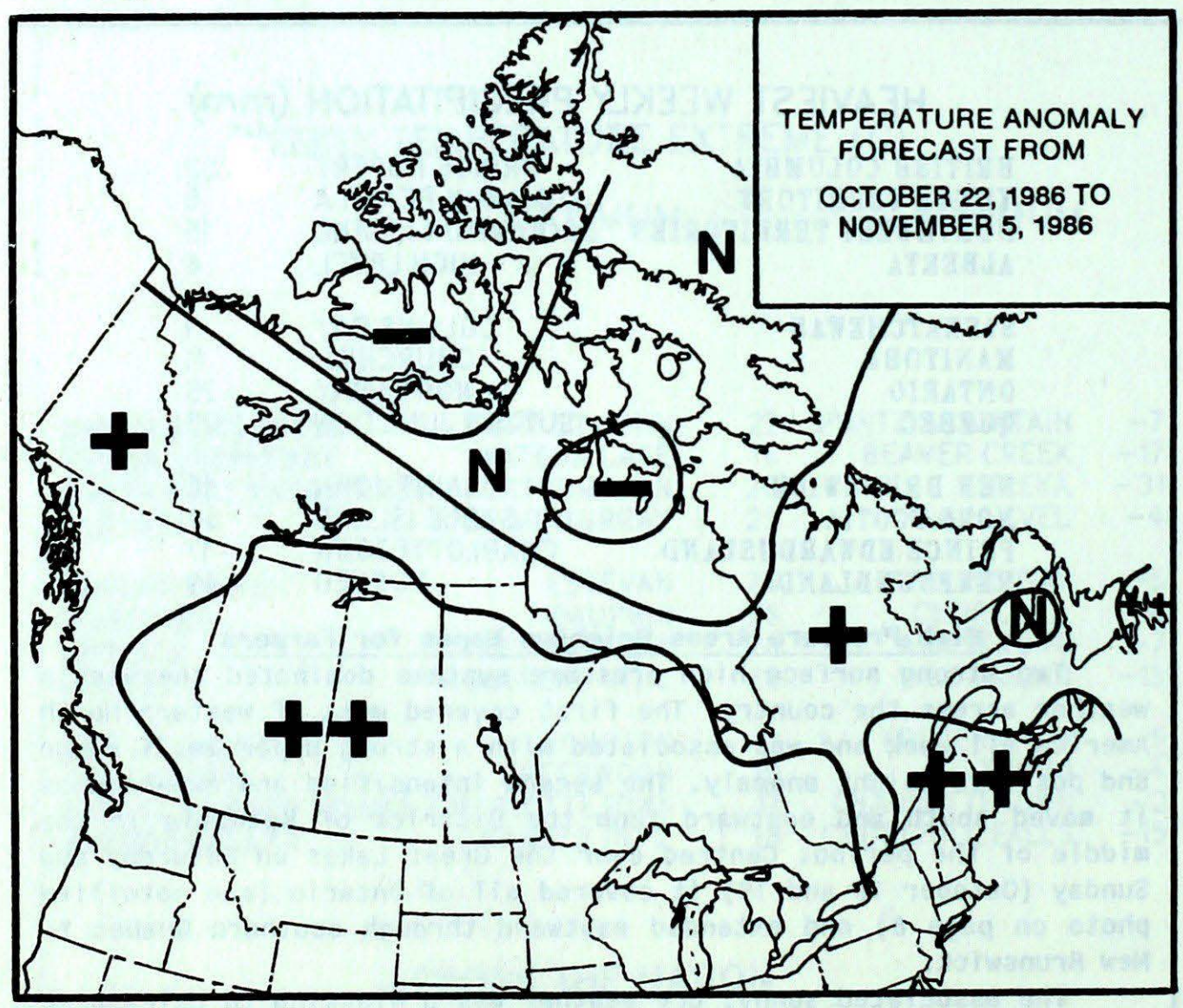
High Pressure Areas Brighten Hopes for Farmers

Two strong surface high pressure systems dominated the week's weather across the country. The first covered most of western North America all week and was associated with a strong upper level ridge and positive height anomaly. The second intensified and expanded as it moved south and eastward from the District of Keewatin in the middle of the period. Centred over the Great Lakes on Saturday and Sunday (October 18 and 19) it covered all of Ontario (see satellite photo on page 8) and extended eastward through southern Quebec to New Brunswick.

The associated sunny, dry weather was a blessing to beleagured farmers in Canada's principal agricultural regions who had suffered through one of the wettest Septembers on record. It was an excellent week for harvesting throughout western Canada. Despite several rainy days across southern Ontario, it was the second consecutive week with below normal precipitation. Fields were still too wet to fully resume harvest operations, but the termination of the extended wet spell has buoyed the sagging spirits of farmers.

FORECAST





Temperature Anomaly Forecast

++	much above normal
+	above normal
N	normal
-	below normal
--	much below normal

This forecast is prepared by searching historical weather maps to find cases similar to the present. The historical outcome during the 15 days subsequent to the chosen analogues is assumed to be a forecast for the next 15 days from now.

CLIMATIC PERSPECTIVES VOLUME 8

Managing Editor P.R. Scholefield
Editors-in-charge
weekly A.K. Radomski
monthly A.A. Caillet
Data Manager M. Skarpathiotakis
Art Layout M. Baptiste
Word Processing N. Khaja
Translation D. Pokorn
Cartography G. Young/T. Chivers
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Regional Correspondents
Atlantic: F.Amirault; Que.: J.Miron Ont.:B.Smith; Central:B.Tortorelli; Western: W.Prusak; Pac.: E.Coatta; Yukon Weather Centre; Frobisher Bay & Yellowknife Weather Offices; Newfoundland Weather Centre: G.MacMillan; AES Satellite Data Lab; Ice Central Ottawa
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The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. The contents may be reprinted freely with proper credit.

The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

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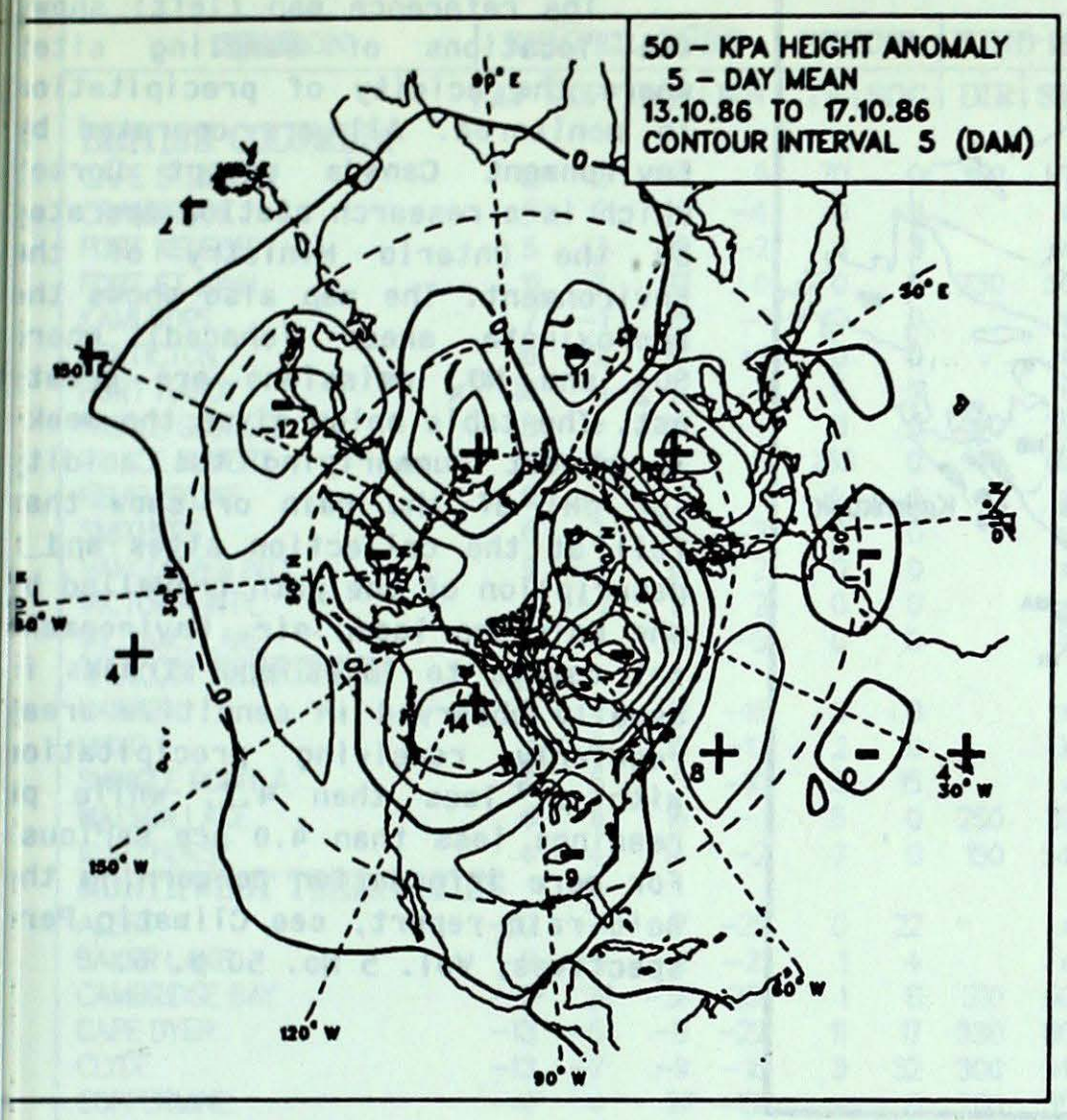
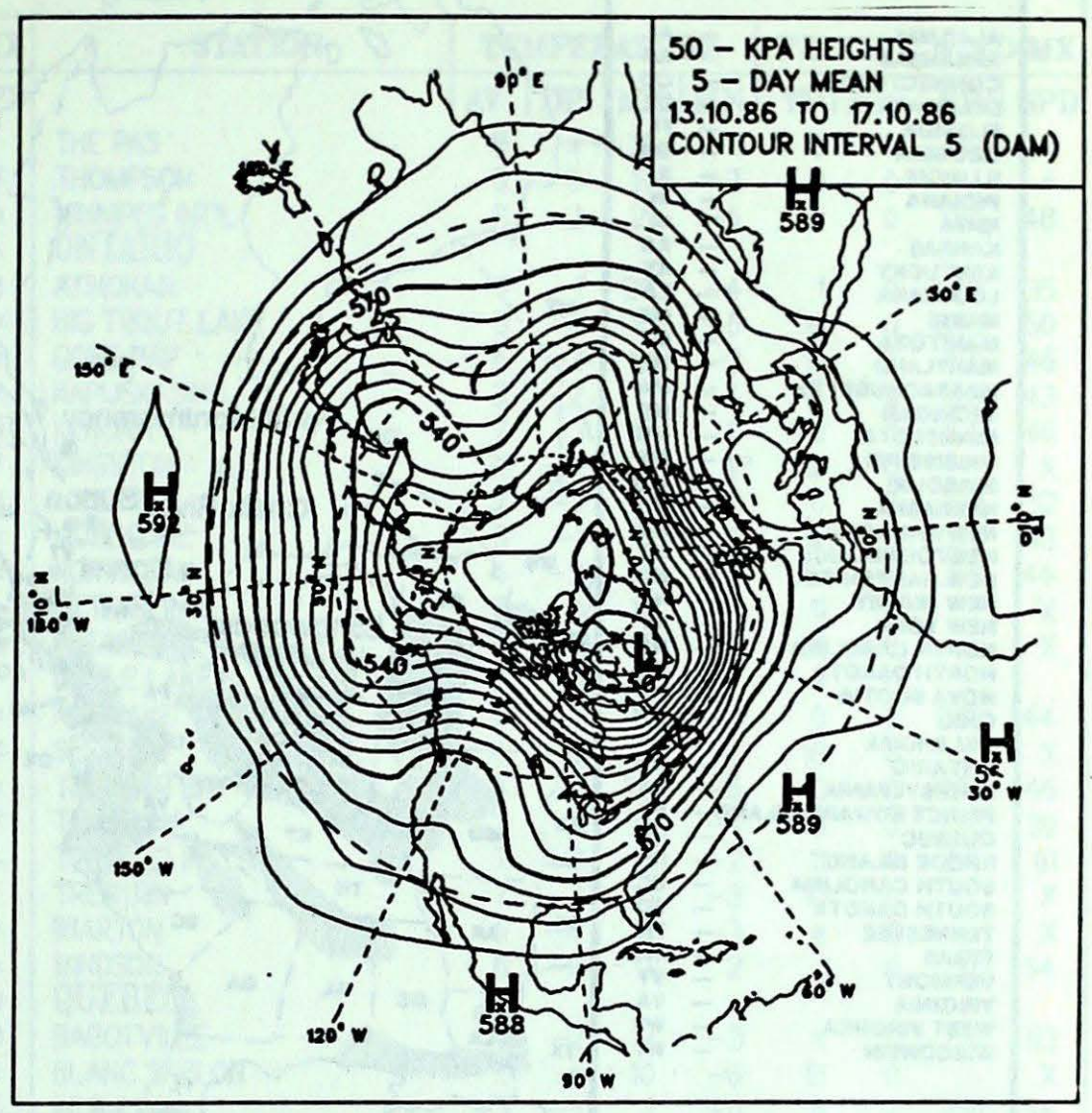
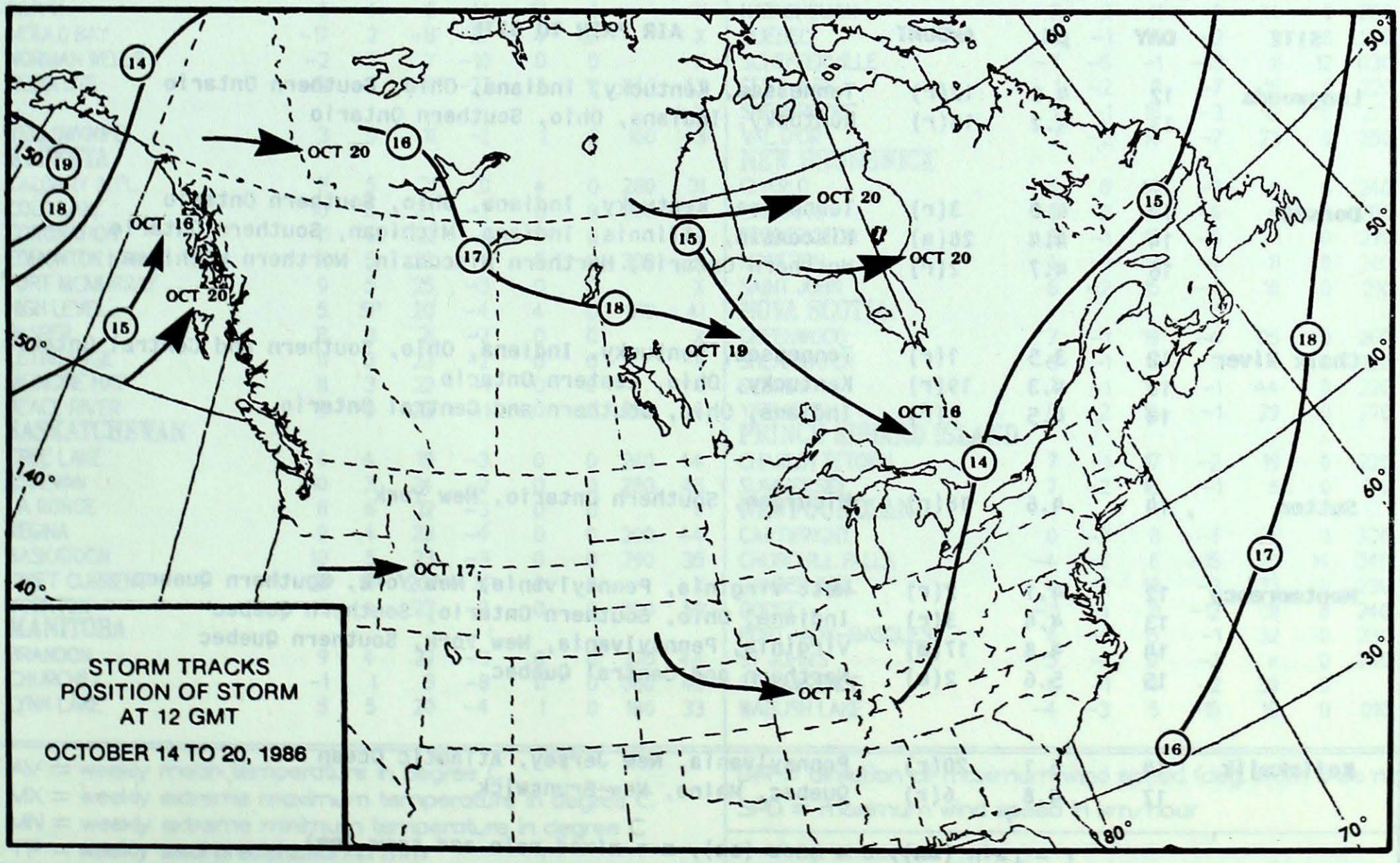
50 KPa ATMOSPHERIC CIRCULATION



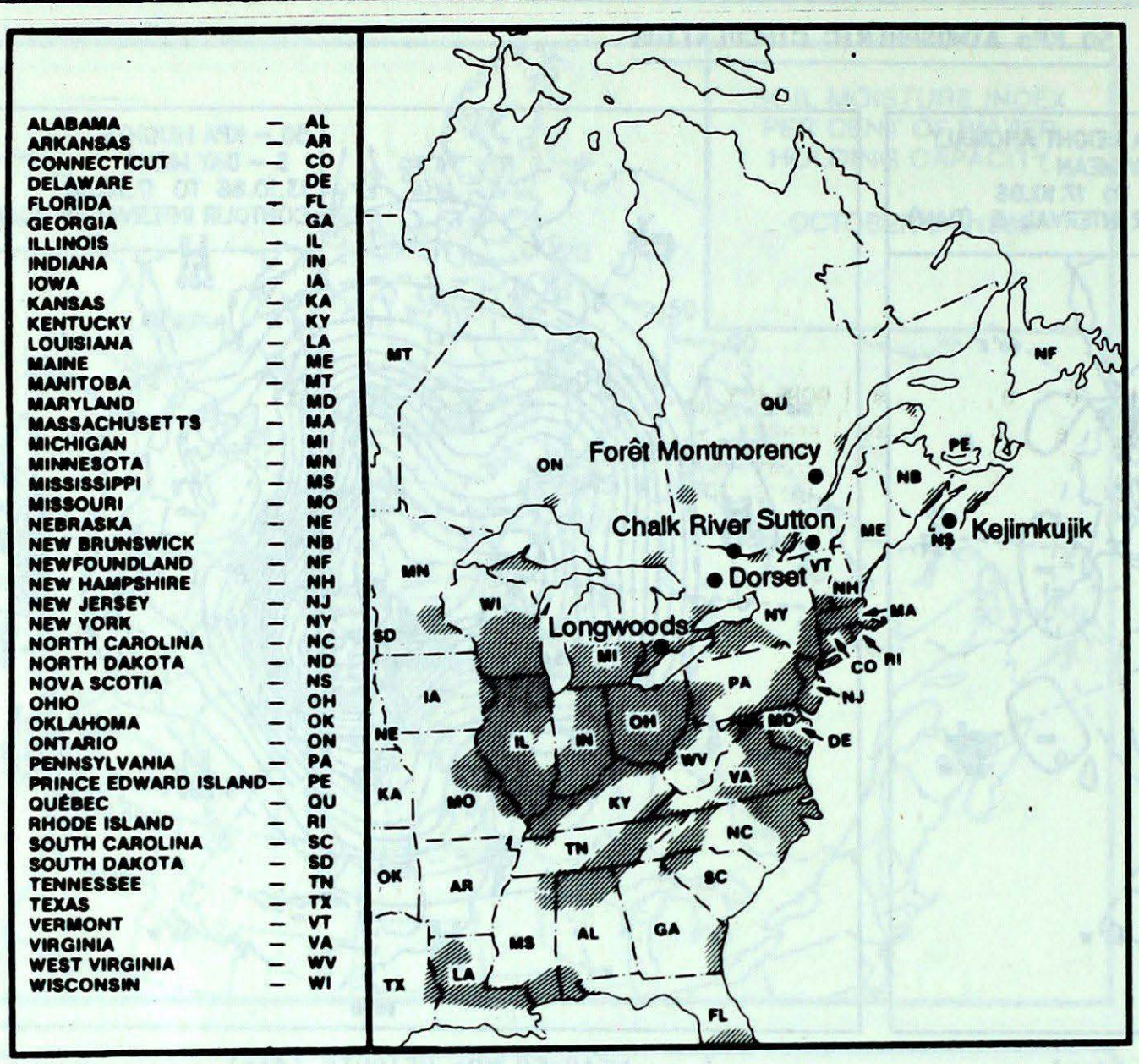
MEAN 50 KPa HEIGHT ANOMALY (dam)
October 13 to October 17, 1986



MEAN 50 KPa HEIGHTS (dam)
October 13 to October 17, 1986



ACID RAIN



ACID RAIN REPORT

The reference map (left) shows the locations of sampling sites where the acidity of precipitation is monitored. All are operated by Environment Canada except Dorset which is a research station operated by the Ontario Ministry of the Environment. The map also shows the approximate areas (shaded) where SO_2 and NO_x emissions are greatest. The table below gives the weekly report summarizing the acidity (or pH) of the rain or snow that fell at the collection sites and a description of the path travelled by the moisture laden air. Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH less than 4.7, while pH readings less than 4.0 are serious. For more information concerning the acid rain report, see Climatic Perspectives, Vol. 5 No. 50 p. 6.

OCTOBER 12 TO OCTOBER 18, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	12	4.2	12(r)	Tennessee, Kentucky, Indiana, Ohio, Southern Ontario
	13	4.2	18(r)	Kentucky, Indiana, Ohio, Southern Ontario
Dorset	12	4.0	3(r)	Tennessee, Kentucky, Indiana, Ohio, Southern Ontario
	14	4.4	28(m)	Wisconsin, Illinois, Indiana, Michigan, Southern Ontario
	16	4.7	2(r)	Northern Ontario, Northern Wisconsin, Northern Michigan
Chalk River	12	3.5	1(r)	Tennessee, Kentucky, Indiana, Ohio, Southern and Central Ontario
	13	4.3	19(r)	Kentucky, Ohio, Eastern Ontario
	14	4.5	2(r)	Indiana, Ohio, Southern and Central Ontario
Sutton	14	4.6	18(r)	Michigan, Southern Ontario, New York
Montmorency	12	4.1	2(r)	West Virginia, Pennsylvania, New York, Southern Quebec
	13	4.4	3(r)	Indiana, Ohio, Southern Ontario, Southern Quebec
	14	4.8	17(m)	Virginia, Pennsylvania, New York, Southern Quebec
	15	5.6	2(m)	Northern and Central Quebec
Kejimkujik	14	5.1	20(r)	Pennsylvania, New Jersey, Atlantic Ocean
	17	4.8	6(r)	Quebec, Maine, New-Brunswick

r = rain (mm), s = snow (cm), m = mixed rain and snow (mm).

STATISTICS

TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT OCTOBER 21,1986

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	12	2	14	9	70	0	160	87
CRANBROOK	5	0	14	-4	0	0		*
FORT NELSON	5	3	19	-2	8	3		*
FORT ST.JOHN	11	7	22	0	0	0	230	56
KAMLOOPS	7	-1	15	-1	0	0		*
PENTICTON	6	-2	15	-1	0	0		*
PORT HARDY	10	1	17	2	6	0		*
PRINCE GEORGE	8	*	18	-5	8	0	190	39
PRINCE RUPERT	11	4	16	6	253	0	140	67
REVELSTOKE	5	-1	9	1	0	0		*
SMITHERS	6	2	18	-3	8	0		*
VANCOUVER INT'L	9	-1	15	2	0	0		*
VICTORIA INT'L	9	-1	17	2	0	0		*
WILLIAMS LAKE	9	*	20	-3	0	0		X
YUKON TERRITORY								
DAWSON	-3	*	12	-16	0	0		*
MAYO	1	4	15	-12	2	0		X
SHINGLE POINT A	-4	5	3	-10	8	15		*
WATSON LAKE	6	6	16	-1	5	0	250	37
WHITEHORSE	4	4	14	-2	7	0	150	54
NORTHWEST TERRITORIES								
ALERT	-22	-1	-17	-25	0	22		*
BAKER LAKE	-9	-1	-2	-21	1	4		*
CAMBRIDGE BAY	-11P	2P	-3P	-25P	1	8	310	50
CAPE DYER	-13	-5	-8	-22	11	17	030	80
CLYDE	-13	-7	-9	-18	3	32	300	54
COPPERMINE	-4P	*	2P	-15P	*	6	290	35
CORAL HARBOUR	-14P	-6P	-5P	-22P	0	4		X
EUREKA	-25	-2	-17	-31	0	7	010	43
FORT SMITH	5	5	19	-2	*	0		X
FROBISHER BAY	-11	-6	-6	-25	*	5	320	83
HALL BEACH	-16	-6	-8	-23	1	7	330	69
INUVIK	-5	4	0	-14	12	4		X
MOULD BAY	-17	2	-8	-27	4	21		X
NORMAN WELLS	-2	3	7	-10	0	0		X
RESOLUTE	-19	-3	-11	-27	2	11	340	63
								X
YELLOWKNIFE	3	5	11	-2	1	0	160	43
ALBERTA								
CALGARY INT'L	11	5	21	0	*	0	280	31
COLD LAKE	10	5	23	-2	0	0	260	33
CORONATION	11	6	22	-1	0	0		*
EDMONTON NAMAO	11	5	22	1	0	0	300	31
FORT MCMURRAY	9	5	25	-3	0	0		X
HIGH LEVEL	5	5P	20	-4	4	0	010	41
JASPER	8	3	21	-2	0	0		X
LETHBRIDGE	11	3	23	-2	0	0		*
MEDICINE HAT	11	3	22	-1	0	0		*
PEACE RIVER	9	6	23	-1	0	0	250	54
SASKATCHEWAN								
CREE LAKE	6	4	19	-3	0	0	240	44
ESTEVAN	10	3	24	-2	0	0	280	43
LA RONGE	8	6	22	-3	0	0		*
REGINA	9	4	23	-4	0	0	290	44
SASKATOON	10	5	23	-3	0	0	290	35
SWIFT CURRENT	12P	5P	20P	3P	0	0		X
YORKTON	9	4	23	-2	0	0	300	50
MANITOBA								
BRANDON	9	4	22	-3	0	0	270	44
CHURCHILL	-1	1	3	-8	11	0	060	48
LYNN LAKE	5	5	20	-4	1	0	180	33

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
THE PAS	8	*	21	-1	0	0	300	35
THOMPSON	5	5	19	-3	0	0		*
WINNIPEG INT'L	8	2	21	-5	*	0	010	48
ONTARIO								
ATIKOKAN	5	1	20	-4	1	0	250	35
BIG TROUT LAKE	3	*	15	-5	4	0	040	50
GORE BAY	6	-2	14	-2	10	0	260	46
KAPUSKASING	2	-2	15	-4	16	0	330	43
KENORA	7	1	17	0	0	0	200	46
KINGSTON	7P	-2P	12P	1P	12	0		X
LONDON	7	-3	17	-1	6	0	290	52
MOOSONEE	3	-1	13	-4	9	0	020	43
NORTH BAY	4	-3	14	-5	25	0	250	44
OTTAWA INT'L	8	0	18	-1	11	0		X
PETAWAWA	4	0	16	-5	21	0		X
PICKLE LAKE	4	0	16	-4	*	0		
RED LAKE	6	2	17	-3	0	0	230	44
SUDBURY	4	-2	14	-4	18	0		X
THUNDER BAY	4	-2	20	-5	10	0	360	46
TIMMINS	3	-1	18	-4	9	0	330	39
TORONTO INT'L	7	-3	18	-2	11	0	260	61
TRENTON	7	-3	16	-3	10	0		X
WIARTON	6	-4	15	-3	*	0		X
WINDSOR	8	-3	17	2	1	0	290	54
QUEBEC								
BAGOTVILLE	4	-2	13	-3	*	0	250	63
BLANC SABLON	1	*	10	-6	13	0		X
INUKJUAK	-3	-3	2	-11	6	2	250	54
KUUJJUAQ	-7	-6	0	-15	5	3	290	74
KUUJJUARAPIK	-1	-4	5	-10	13	*	230	56
MANIWAKI	5	-2	16	-6	20	0	270	33
MONT JOLI	4	-2	16	-6	5	0	240	81
MONTREAL INT'L	8	-1	18	-1	8	0	240	61
NATASHQUAN	2	-2	11	-6	14	0	260	54
QUEBEC	6	-1	15	-2	11	0	250	70
SCHEFFERVILLE	-7	-5	-1	-13	11	12	030	43
SEPT-ILES	1	-2	9	-7	16	0	220	65
SHERBROOKE	5	-1	16	-3	12	0	270	54
VAL D'OR	2	-2	14	-7	23	0	350	50
NEW BRUNSWICK								
CHARLO	5	0	14	-3	5	0	240	70
CHATHAM	5	-2	15	-5	4	0	280	78
FREDERICTON	6	-1	15	-5	1	0	270	69
MONCTON	6	-1	17	-4	11	0	240	70
SAINT JOHN	6	-2	15	-4	16	0	210	56
NOVA SCOTIA								
GREENWOOD	7	-1	19	-4	25	0	260	80
SHEARWATER	8	-1	17	-2	*	0	220	63
SYDNEY	7	-1	19	-1	44	0	220	65
YARMOUTH	8	-2	16	-1	29	0	270	46
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	7	-1	17	-2	19	0	220	56
SUMMERSIDE	7	-2	16	-1	5	0	210	61
NEWFOUNDLAND								
CARTWRIGHT	0	-3	8	-6	26	0	330	56
CHURCHILL FALLS	-4	-2	6	-15	20	14	340	48
GANDER INT'L	4	-2	18	-3	23	0	230	44
GOOSE	-2	-5	11	-12	31	8	240	43
PORT-AUX-BASQUES	6	-1	15	-1	32	0	280	93
ST JOHN'S	5	-1	17	-2	*	0	240	70
ST LAWRENCE	6	-1	14	-2	39	0		X
WABUSH LAKE	-4	-3	5	-15	18	11	010	48

AV = weekly mean temperature in degree C
MX = weekly extreme maximum temperature in degree C
MN = weekly extreme minimum temperature in degree C
TP = weekly total precipitation in mm
DP = departure of mean temperature from normal in degree C
SOG = snow depth on ground in cm, last day of the period

DIR = direction of maximum wind speed (deg. from true north)
SPD = maximum wind speed in km/hour

X = not observed
P = value based on less than 7 days
* = missing

Bright sunny skies under the influence of high surface pressures dominated the weather picture over the Great Lakes during the weekend of October 18 and 19. This near infrared satellite image taken on October 19 clearly differentiates between the surrounding forests and farmlands.